DOINGWHATWORKS

Audio

FULL DETAILS AND TRANSCRIPT

Using Informal Classroom Assessment with Struggling Students

Twin Groves Middle School, Illinois • May 2008

Topic: National Math Panel: Critical Foundations for Algebra

Practice: Mastery Framework

Highlights

- Purpose of formative assessment
- Formative assessment techniques
- Examples of using informal observations to check for student understanding
- How to use a variety of techniques to assess student learning during a lesson
- Options for helping students who struggle with mathematics concepts
- How to use various instructional methods to design lessons for struggling students
- Examples of instructional models for teaching the addition of integers
- Example of helping a student who is struggling with subtraction

About the Site

Twin Groves Middle School

Buffalo Grove, IL

Demographics

83% White

15% Asian

2% Hispanic
1% Black
1% Free or Reduced-Price Lunch
2% English Language Learner

Staff from Twin Groves Middle School have been active participants in the district's processes of vertical alignment of standards and development of power standards. Distinctive features of the school's approach include:

- Vertical alignment process to identify overlaps and gaps in curriculum,
- Development of power standards to guide curriculum and assessment,
- Specific standards for advanced and honors math,
- Analysis of power standards to develop well-aligned formative assessments,
- Use of computerized assessment and reporting system,
- Variety of types of formative assessments, including observation during in-class lessons, and
- Intervention options for struggling students.

Full Transcript

Hi, I am Terri Porto. I teach 7th and 8th grade math at Twin Groves School in Buffalo Grove, Illinois. No matter what type of assessment I use, I am looking for who understands the material, who needs additional help, or what skill I might need to re-teach. In the classroom, I use many informal observation techniques to check for understanding of a concept. I will start a class; I will have an opener on the board. An opener is a group of problems that I write to see if the students have retained the information from the previous day. I also will have a problem that's an extension of the previous lesson. Sometimes the openers will have problems that will lead us into the new lesson. While students work on these, I am able to walk around and assess how the class and individual students are doing. This is also a time I can answer questions that they may have. Students are also assisting partners at this time and talking through the problem.

During a lesson there is numerous ways I assess how students are doing. Sometimes, I will ask students to raise their hands if they have a correct answer to a problem, so I can get a quick reading as to how students are doing. Other times, students are given a whiteboard and they put their answers on the board and hold it up, this way I can see their answers and assess if the concept is understood. I will sometimes have students work in pairs or small groups and circulate among them, listening to their conversation and posing questions to them to see if they understand and to extend their thinking. Students also love going to the board to do problems. I will give them a set of problems, when they are finished I will send different students to the board for them to show and explain what they have done.

A more formative assessment I use is with exit slips. I give the students two to three problems toward the end of the period, they answer the problems on a slip of paper, and they return it to me as they leave. This allows me to look closely at how each student is solving the problem and know what I may need to re-teach the next day. If a formative assessment shows that a student doesn't understand a concept, there are many options. Of course, I will seek the student out during class time to give them assistance, but we also have additional help available before school, after school, and during lunchtime. We have a Peer Tutoring Program and extra support is given to students in Special Ed classes and study skills class. We have a program here that we call *Academic Extension,* and students are assigned to receive an extra half hour of math instruction, two days a week, in this time. The skills that are focused on during that time are the ones that they are currently studying in their class. I determine which students will attend this on a week-by-week basis. It's a small group of students, so they receive more individual attention, and this year we have had over 200 different students who have received assistance in this.

Those students who don't perform well on our quarterly benchmark are assigned to a once-a-week program after school for additional instruction and assistance. For this program, students attend for a full quarter and during these sessions students can use a computer website called "Study Island" that we have subscribed to, which provides additional help along with direct assistance from the teacher.

I have students who struggle in all different levels, however, my lowest level is where I have the larger population of struggling students. In that class there are three teachers in the room making the student-teacher ratio lower. This allows for students to receive more one-on-one instruction and flexible grouping. For some lessons I will break the class into smaller groups based upon their level of understanding. For the group who has grasped the concept, they will work on enrichment material while the other group, with one of the adults, will continue to work on understanding the main idea.

No matter what level class I am teaching, lessons are presented in various ways. There can be a discovery part where students will try to find the concept by looking at patterns and relationships and then we discuss what they found. These discoveries lead into the lesson. Other lessons, especially with the struggling students are presented with manipulatives, I'll model on the overhead while students will have their own set in front of them to follow along. An example of this is with adding integers. Students are given positive and negative chips to see the relationship and to develop the algorithm for adding. Some students will need a different type of model so I may use a number line with them or relate it to real-life situations to help them better understand. The end goal is to have all the students achieve the concept with whatever method works best for them.

I had a student who was struggling with subtraction of integers. The rest of the class had mastered the concept but he was just not grasping it. So I had him come in after school and we worked together using the positive and negative chips to see the relationship. We worked on one type of problem at a time using the chips until he was able to see a pattern that produced a correct answer for him. After working through

various types of the problems, I had him practice the skill on the website that had integer flash cards. He was able to choose the difficulty of the problem and in time, he was able to finally grasp what was going on.

On the other hand, I have students who quickly grasped and I have to approach them a little differently. I have a 6th grade student who is in my 7th grade honors class, so the content that he is receiving is already very accelerated. However, I am able to further challenge him with my opener questions at the start of class. I have also found it a challenge for him to be able to explain the "why" behind everything we are studying. I encourage him to seek out the relationships between the concepts. For example, we just recently finished looking at quadratic functions and finding the discriminant and the vertex. When we got to the quadratic formula, he knew the formula but he didn't see the connection between the three parts, and so I had him further look at it, and then explain to the class how it all comes together.